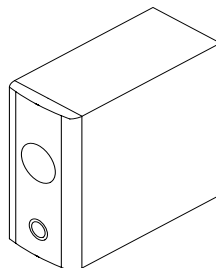


Service Manual



S-DV900SW

ORDER NO.
RRV2864

POWERD SUBWOOFER

S-DV900SW

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
S-DV900SW	DAXJI	AC110-120V/220-230V/240V	

This product does not function properly when independent ; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result

Component	System	Service Manual	Remarks
DVD/CD TUNER	XV-DV900	RRV2868, RRV2817	
POWERED SUBWOOFER	S-DV900SW	RRV2864	This manual
SPEAKER SYSTEM	S-DV900ST	RRV2873	



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

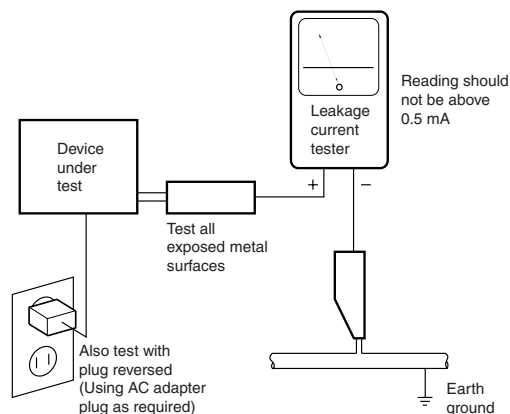
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

CONTENTS

	SAFETY INFORMATION	2
A	1. SPECIFICATIONS	5
	2. EXPLODED VIEWS AND PARTS LIST	6
	2.1 PACKING	6
	2.2 PRODUCT APPEARANCE SECTION [POWERD SUBWOOFER]	8
	2.3 AMPLIFIER ASSY	10
	3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM	12
	3.1 BLOCK DIAGRAM AND OVERALL CONNECTION DIAGRAM	12
	3.2 AF and TRADE 1 ASSY	14
	3.3 6CH AMP ASSY	16
	3.4 POWER ASSY	18
	3.5 PRIMARY ASSY	20
B	4. PCB CONNECTION DIAGRAM	22
	4.1 AF and TRADE 1 ASSY	22
	4.2 6CH AMP ASSY	26
	4.3 POWER ASSY	28
	4.4 PRIMARY ASSY	32
	5. PCB PARTS LIST	34
	6. ADJUSTMENT	37
	7. GENERAL INFORMATION	38
	7.1 DIAGNOSIS	38
	7.1.1 PROTECTION CIRCUIT	38
	7.1.2 DISASSEMBLY	40
	7.2 IC	42
	7.3 CLEANING	42

1. SPECIFICATIONS

Amplifier Section

Continuous Power (RMS) 65 W / channel
..... (1 kHz, THD 10%, 6 Ω)
subwoofer (100 Hz, THD 10%, 6 Ω)

Miscellaneous (DA type)

Power Requirements
AC 110–120 V/220–230 V/240 V, 50/60 Hz
Power Consumption 172 W
Power Consumption
in standby mode 0.58 W

Powered subwoofer (S-DV900SW)

Type Bass reflex floor type, antimagnetic
Speaker 18 cm (cone type)
Nominal impedance 6 Ω
Frequency range 25 – 2300 Hz
Max. input 75 W (JEITA)
Dimensions 192 (W) x 436 (D) x 395 (H) mm
Weight 12.5 kg



Note

- Specifications and design subject to possible modification without notice, due to improvements.

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  mark found on some component parts indicates the importance of the safety factor of the part.

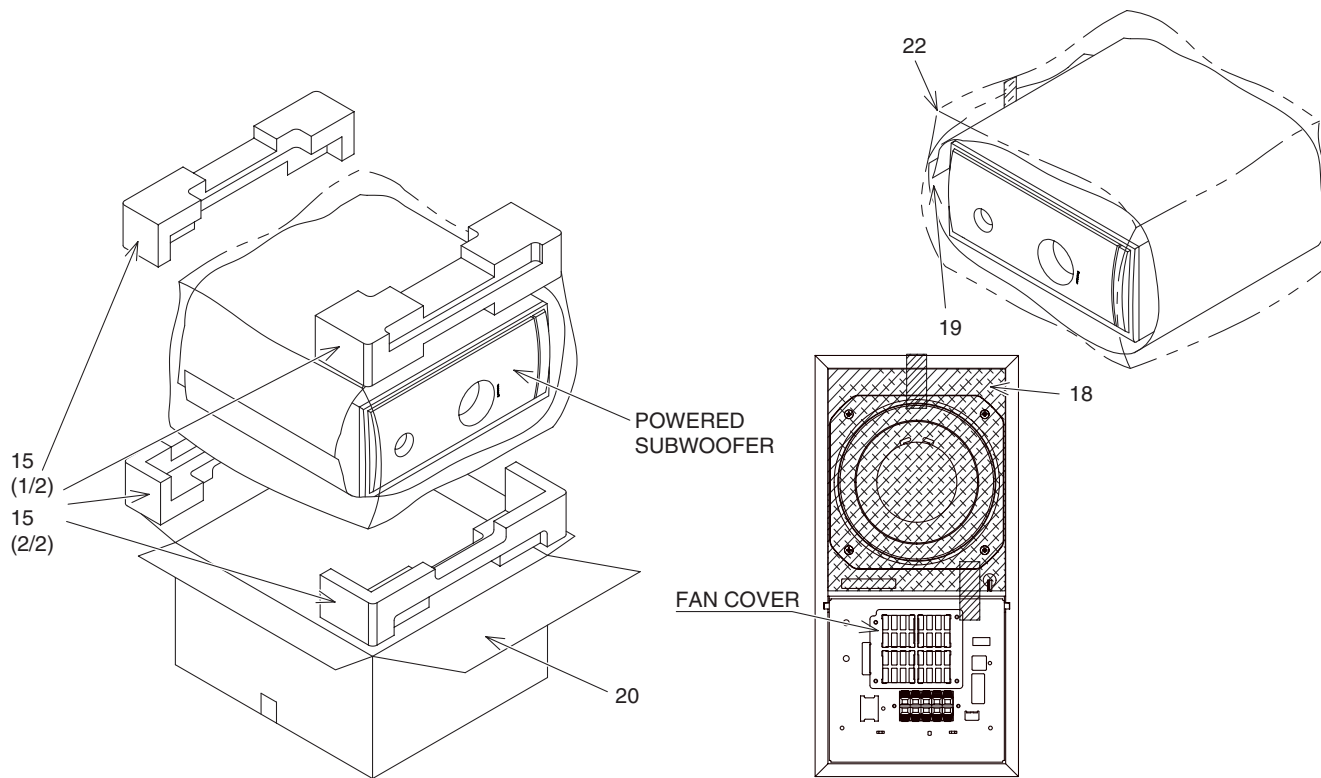
Therefore, when replacing, be sure to use parts of identical designation.

● Screws adjacent to ▼ mark on product are used for disassembly.

● For the applying amount of lubricants or glue, follow the instructions in this manual.

(In the case of no amount instructions, apply as you think it appropriate.)

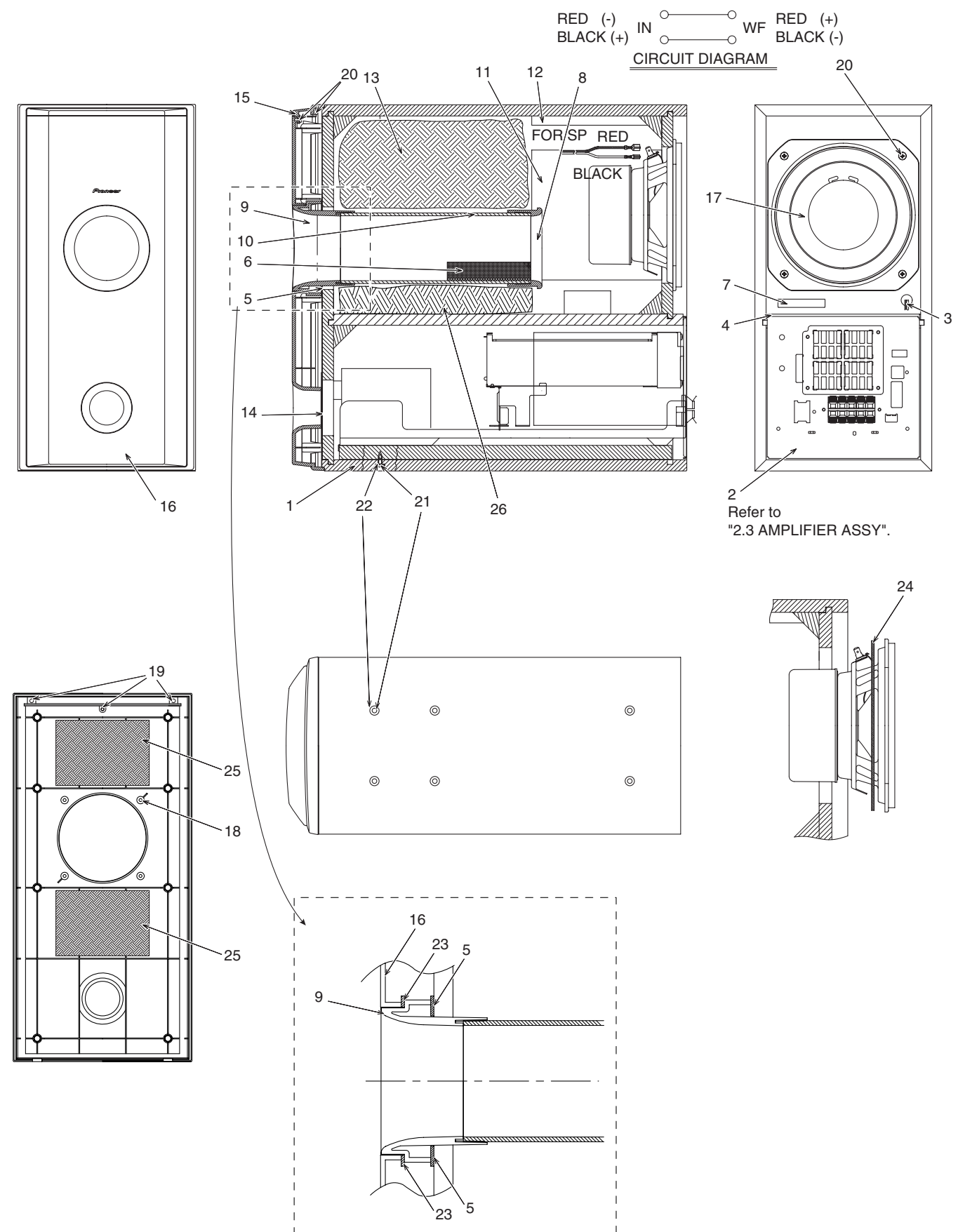
2.1 PACKING



PACKING parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	.....	
2	.....	
3	.....	
4	.....	
5	.....	
6	.....	
7	.....	
8	.....	
9	.....	
10	.....	
11	.....	
12	.....	
13	.....	
14	.....	
15	Protector	SHA2379
16	.....	
17	.....	
18	Protector	SHB1097
19	Protection Sheet	SHC1790
20	Packing Case	SHG2531
21	.....	
22	Poly Bag S6	SHL1292

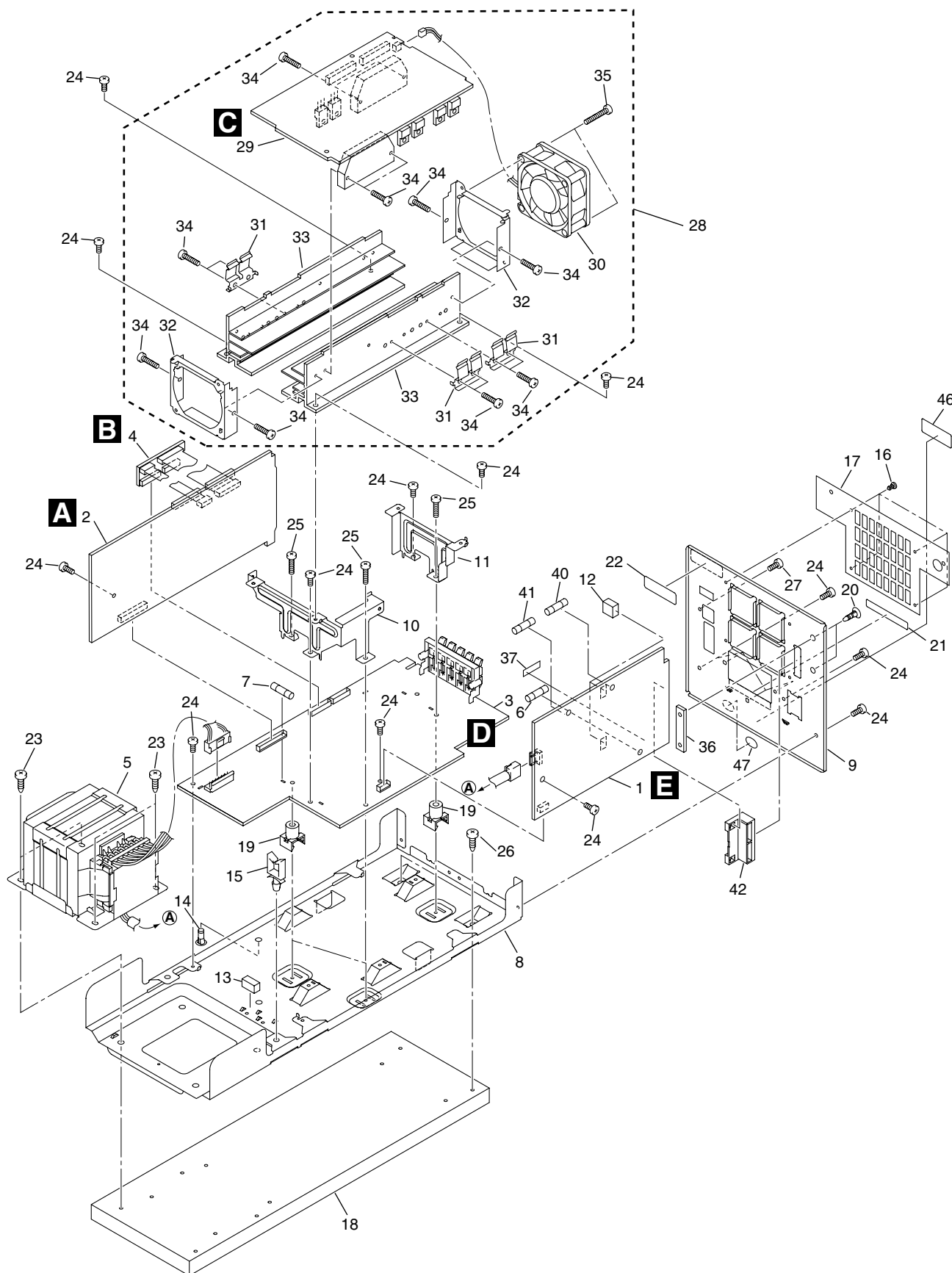
2.2 PRODUCT APPEARANCE SECTION [POWERD SUBWOOFER]



PRODUCT APPEARANCE SECTION parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	Cabinet	SMM1994
NSP 2	Amp Ass'y	AXX7174
3	Connecting Cord	SDF1095
4	Packing	SEC1540
5	Packing	SEC1634
6	Damper	SER1300
NSP 7	Stamped Serial Label	SME3407
NSP 8	Duct Ring	SMR1339
NSP 9	Cosmetic Duct	SMR1356
NSP 10	Paper Tube 70	SMR1362
NSP 11	Acoustic Absorbent	SMV2077
NSP 12	Acoustic Absorbent	SMV2078
NSP 13	Acoustic Absorbent	SMV2079
NSP 14	Mesh	SNC1188
NSP 15	Cosmetic Board	SNK2673
NSP 16	Cosmetic Baffle	SNK2672
17	Speaker	T16EU92-52D
18	Screw	BPZ40P120FZB
19	Screw	BPZ35P080FZB
20	Screw	BYC40P160FZB
21	Screw	BYC40P200FZB
22	Washer	WA43F090M080
NSP 23	Gasket	SEC1735
NSP 24	Gasket	SEC1736
25	Acoustic Absorbent	SMT1216
26	Acoustic Absorbent	SMT1217

2.3 AMPLIFIER ASSY



AMPLIFIER ASSY parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	PRIMARY ASSY	AWU8030
2	AF ASSY	AWU8098
3	POWER ASSY	AWU8097
4	TRADE 1 ASSY	AWU8028
⚠ 5	POWER TRANSFORMER T1	ATS7370
⚠ 6	Fuse (FU1 : T4.0A)	REK1028
⚠ 7	Fuse (FU4 : T5.0A)	REK1029
NSP 8	Chassis	ANA7109
9	Rear Panel	ANC8264
10	Hs Holder F	ANG7439
11	Hs Holder R	ANG7440
12	Cushion B	AEB7290
13	Cushion	AEB7319
14	Card Spacer	AEC7133
15	Wire Saddle	AEC7297
16	Nylon Rivet	AEC7318
17	Fan Cover	AEC7427
18	Wood Base	AMM7008
NSP 19	PCB Mould	AMR1525
20	Rocking Card Spacer	ONK1035
NSP 21	SP Label	AAX7956
NSP 22	Serial Paper	RRW-168
23	Screw	SBA1061
24	Screw	BBZ30P080FMC
25	Screw	BBZ30P200FMC
26	Screw	BYC40P140FMC
27	Screw	PSC30P080FNI
NSP 28	AMP MODULE 6CH	AXQ7242
29	6CH AMP (SERVICE)	AZW7283
30	DC Fan Motor	AXM7025
31	FET Bracket	ANG7418
32	Fan Plate	ANG7462
33	Heat Sink	ANH7166
34	Screw	BBZ30P140FMC
35	Screw	BBZ30P300FZK
NSP 36	USE ASSY	.....
NSP 37	Fuse Card	AAX7099
38	.....	
39	.....	
⚠ 40	Fuse (FU2 : T2.0A)	REK1025
⚠ 41	Fuse (FU3 : T2.0A)	REK1025
42	VS Knob	AAD7690
43	.....	
44	.....	
45	.....	
NSP 46	Rear Label	ARW7030
NSP 47	CCC S&E Label	VRW1945

3.1 BLOCK DIAGRAM AND OVERALL CONNECTION DIAGRAM

C 6CH AMP (SERVICE) (AZW7283)

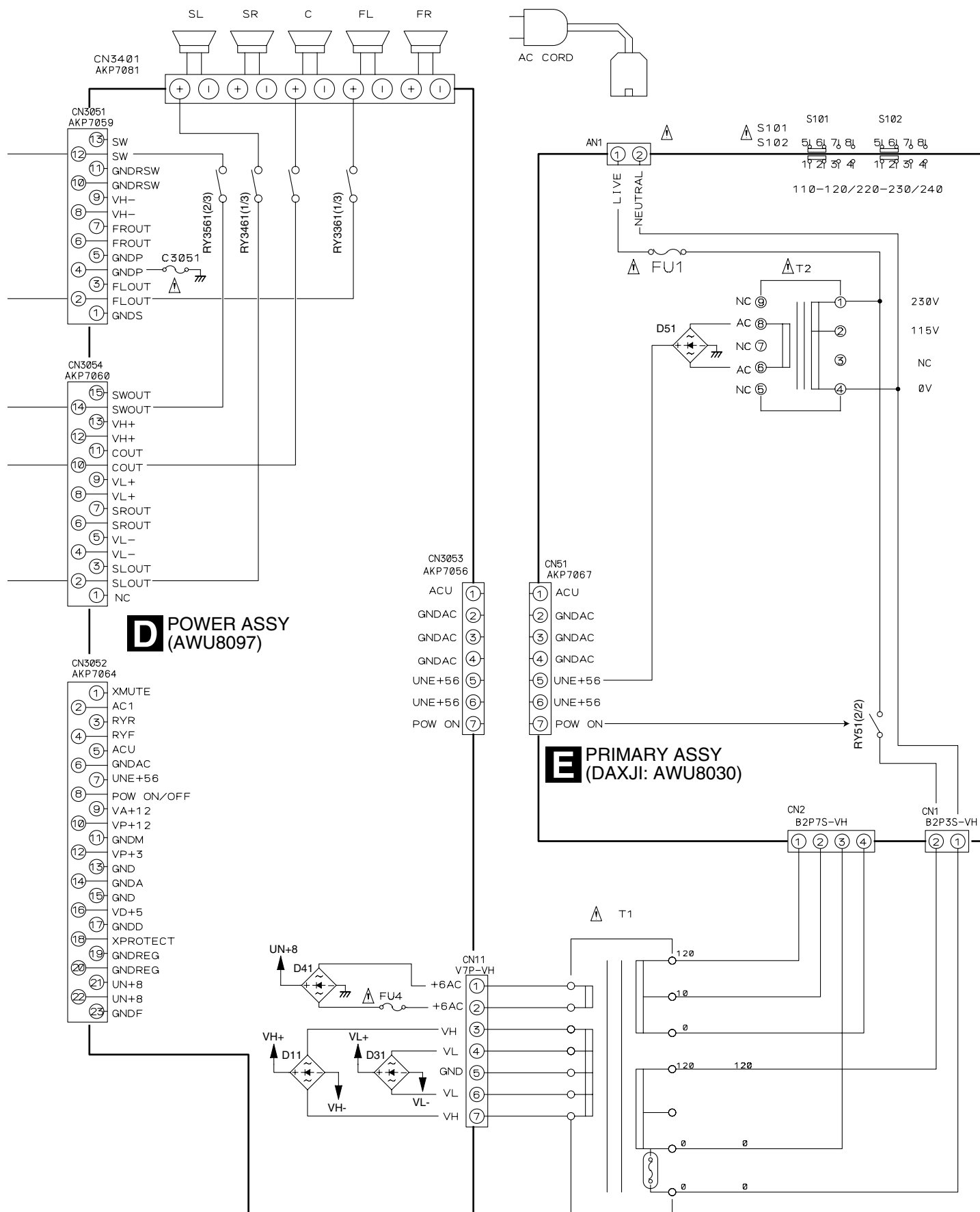
B TRADE 1 ASSY (AWU8028)

A AF ASSY (AWU8098)

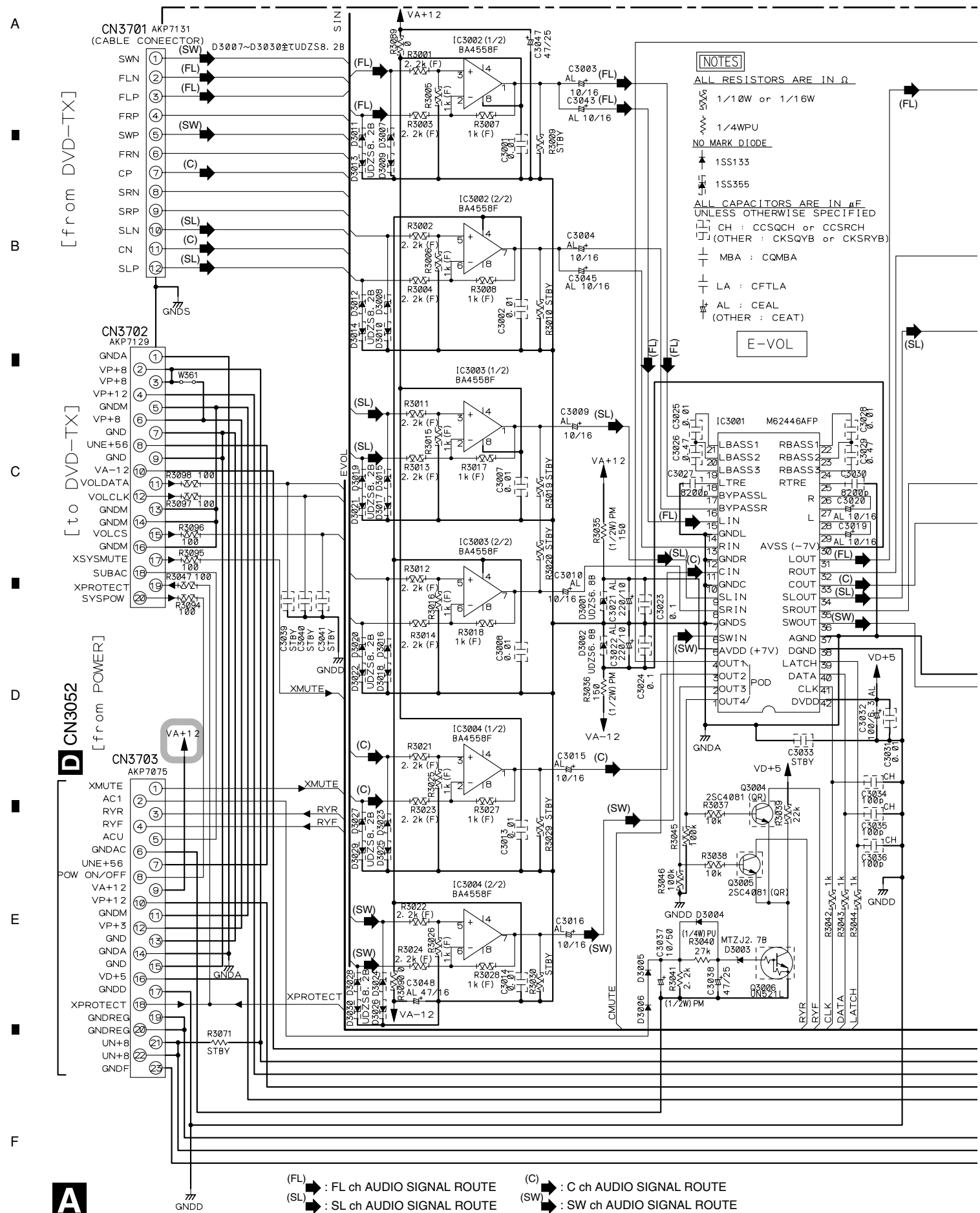
The diagram illustrates the electrical connections between the 6CH AMP (SERVICE) (AZW7283) and the AF ASSY (AWU8098). Key components and connections include:

- IC3301 STK402-270** and **IC3401 STK402-270** are connected to the 6CH AMP.
- IC3002 (1/2) BA4558F**, **IC3004 (1/2) BA4558F**, **IC3003 (1/2) BA4558F**, **IC3004 (2/2) BA4558F**, **IC3101 (1/2) UPC4570**, **IC3103 (1/2) BA4558F**, **IC3104 (1/2) BA4558F**, **IC3104 (2/2) BA4558F**, and **IC3102 (1/2) BA4558F** are part of the internal circuitry.
- IC3001 M62446AFP** is a central component in the AF ASSY.
- Power Supply and Control Signal** section includes **CN 3702** and **CN 3701**.
- Connections** are shown for various pins and components, including **CN3705 AKP7075**, **CN3704 AKP7075**, **CN3703 AKP7075**, **CN3706 AKP7060**, **CN3707 AKP7059**, **CN3701 AKP7131**, **CN3702 AKP7129**, **CN3601**, **D25PDD1012E J3702**, **D25PDD0412E J3701**, **D25PDD0412E J3703**, **SW**, **SWMUTE**, **AC1**, **RVR**, **RYF**, **ACU**, **GNDAC**, **UNE+56**, **ON/OFF**, **VA+12**, **VP+12**, **GNDM**, **VP+3**, **GND**, **GNDAC**, **VD+5**, **GND**, **XPROTECT**, **GNDREG**, **UN+8**, **UN+8**, and **GND**.

- : The power supply is shown with the marked box.



3.2 AF and TRADE 1 ASSY





4

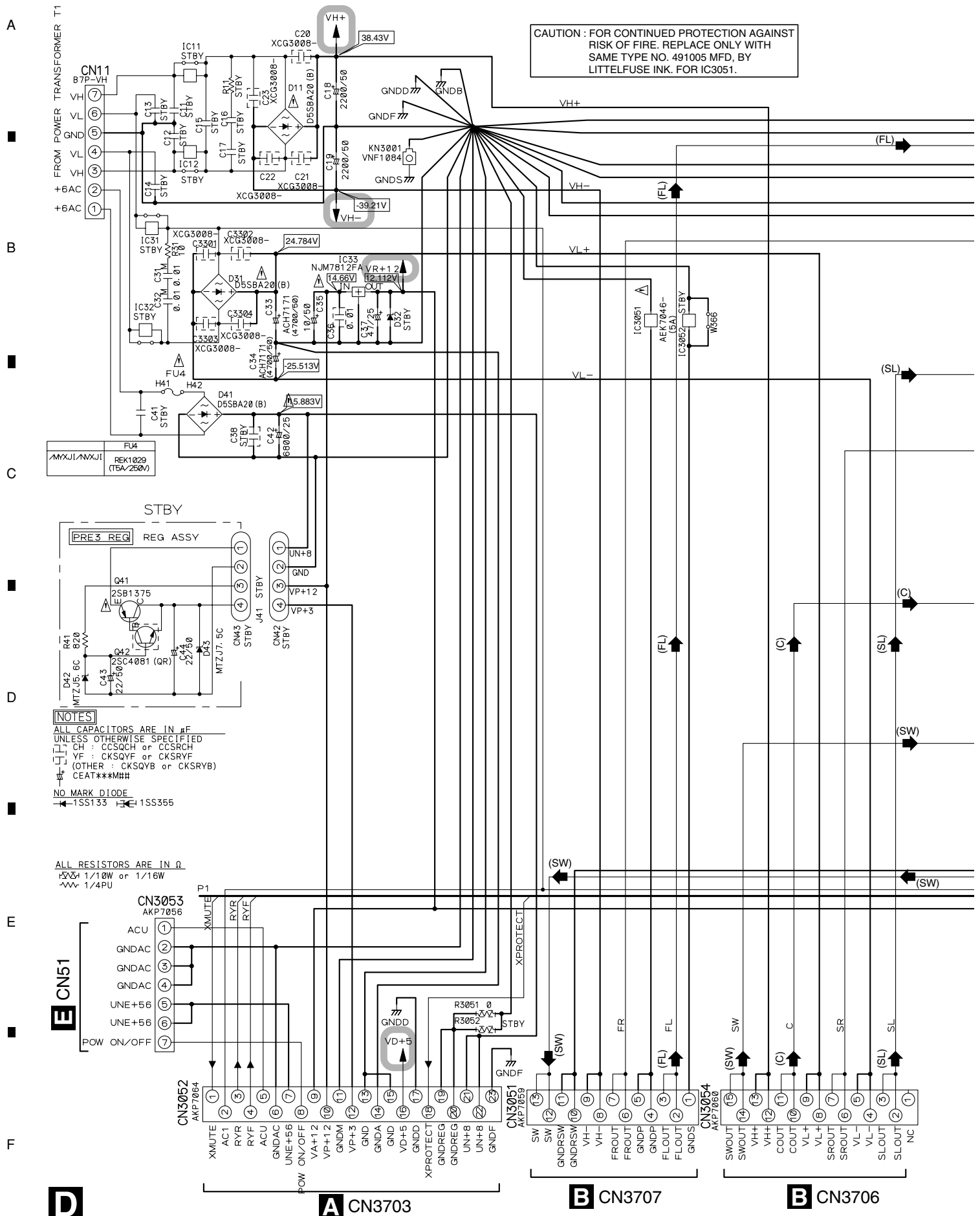
16





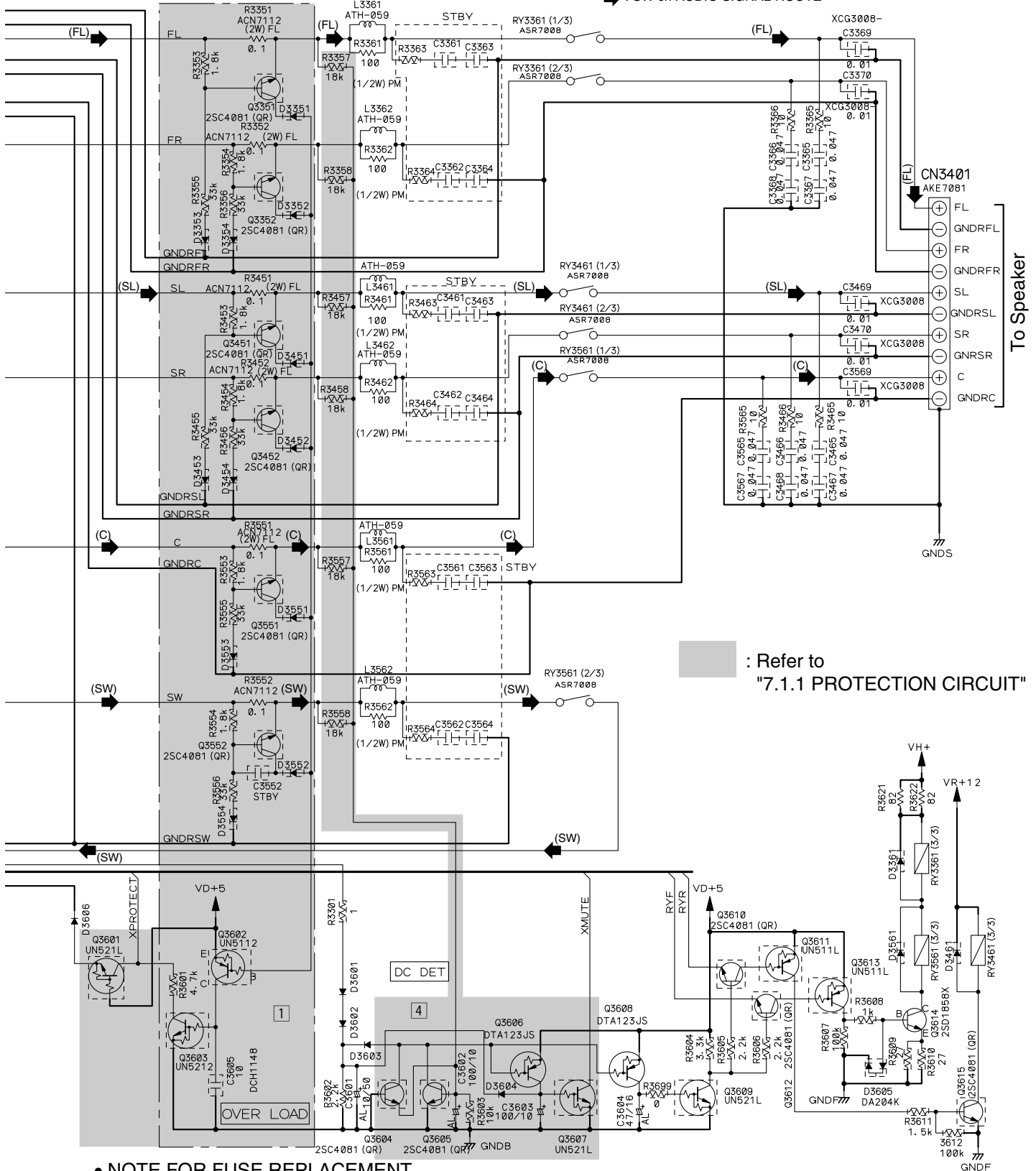
(FL) ➡ : FL ch AUDIO SIGNAL ROUTE
(SL) ➡ : SL ch AUDIO SIGNAL ROUTE
(C) ➡ : C ch AUDIO SIGNAL ROUTE
(SW) ➡ : SW ch AUDIO SIGNAL ROUTE

3.4 POWER ASSY



D POWER ASSY (AWU8097)

(FL) : FL ch AUDIO SIGNAL ROUTE
 (SL) : SL ch AUDIO SIGNAL ROUTE
 (C) : C ch AUDIO SIGNAL ROUTE
 (SW) : SW ch AUDIO SIGNAL ROUTE



• NOTE FOR FUSE REPLACEMENT

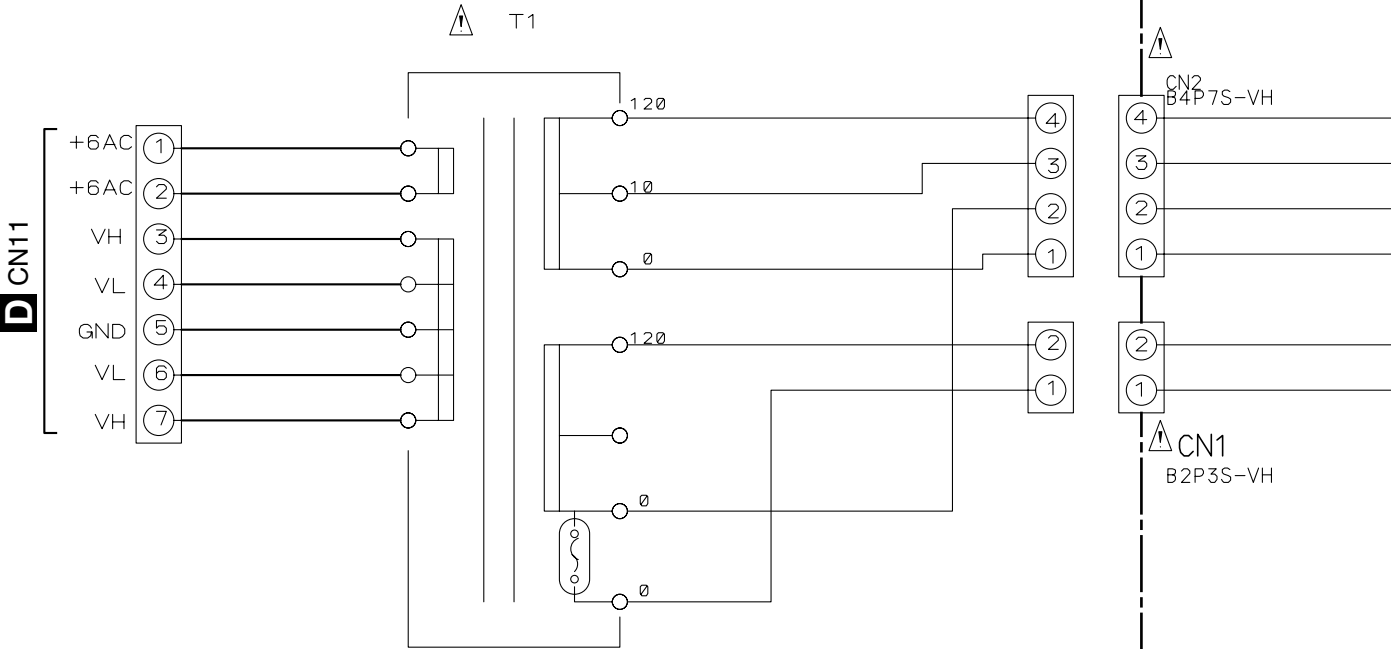
CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

3.5 PRIMARY ASSY

A

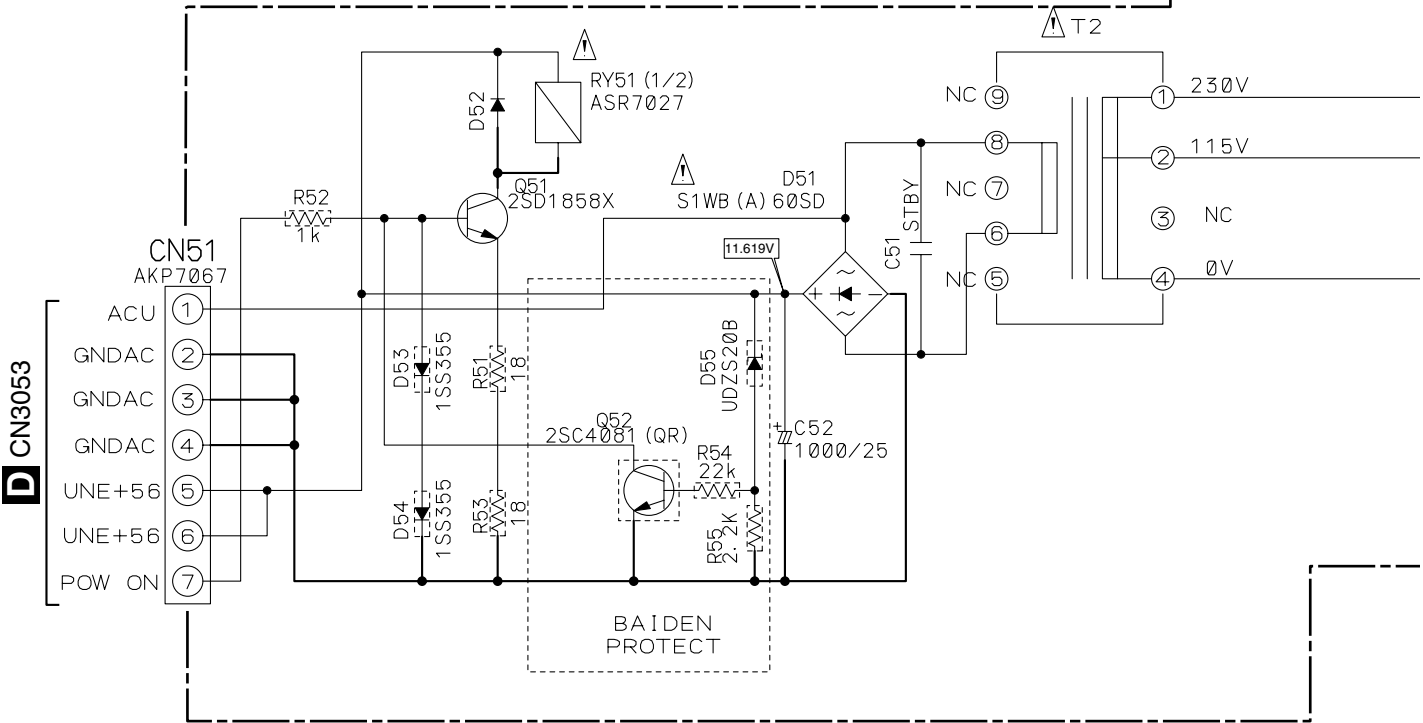
	PRI	T1	T2	FU1	FU2, FU3
	AWU8030	ATS7370	ATT7080	REK1028 (T4AL250V)	REK1025 (T2AL250V)

B



C

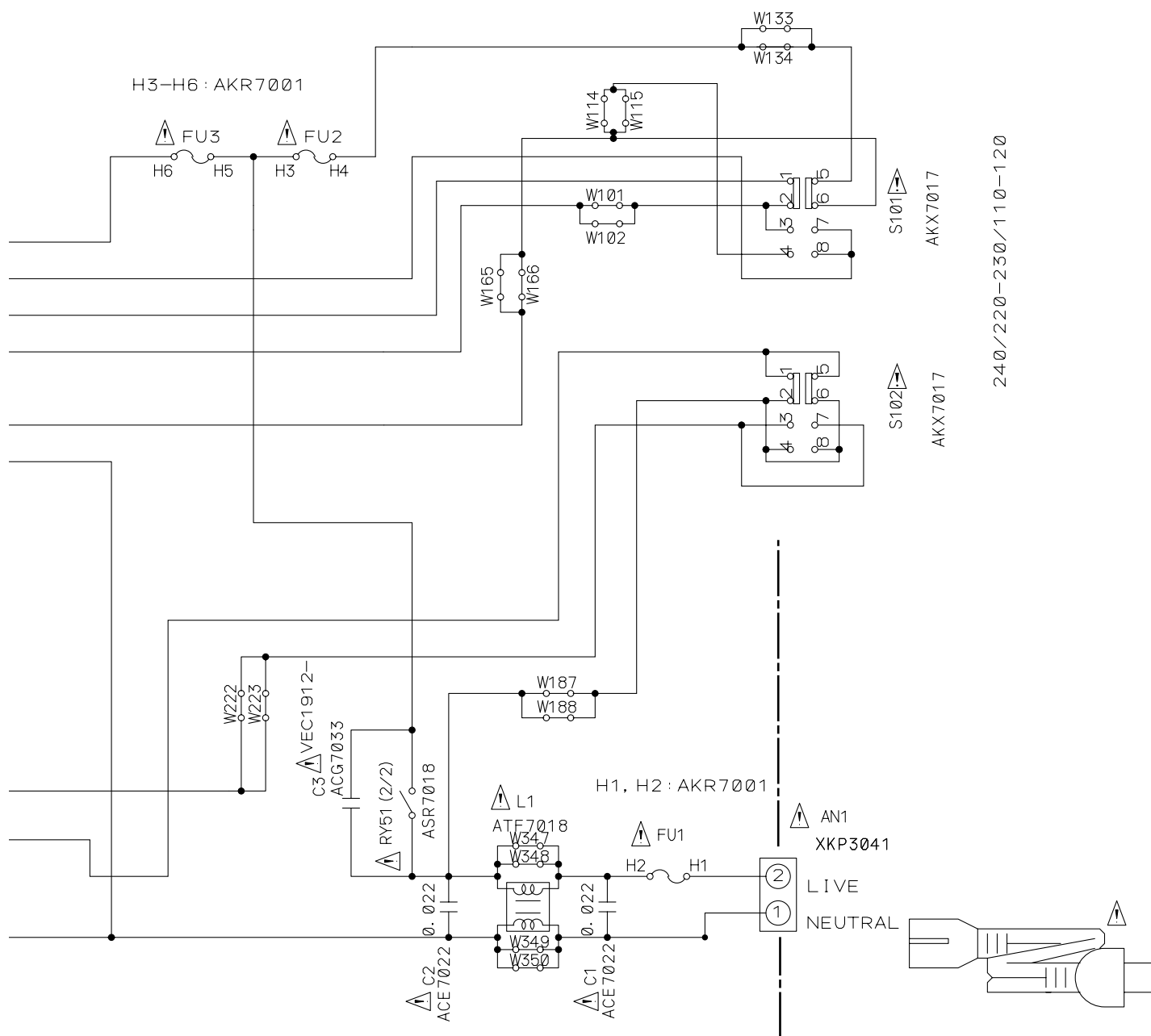
D



E

F

E PRIMARY ASSY (DAXJI: AWU8030)



• NOTE FOR FUSE REPLACEMENT

CAUTION -FOR CONTINUED PROTECTION AGAINST RISK OF FIRE.
REPLACE WITH SAME TYPE AND RATINGS ONLY.

[NOTES]

ALL CAPACITORS ARE IN μ F
UNLESS OTHERWISE SPECIFIED



TY : CFTYA



CKSRYB**



RS1/16S



CEAT***M##



1SS133

4

SIDE B

A

B

C

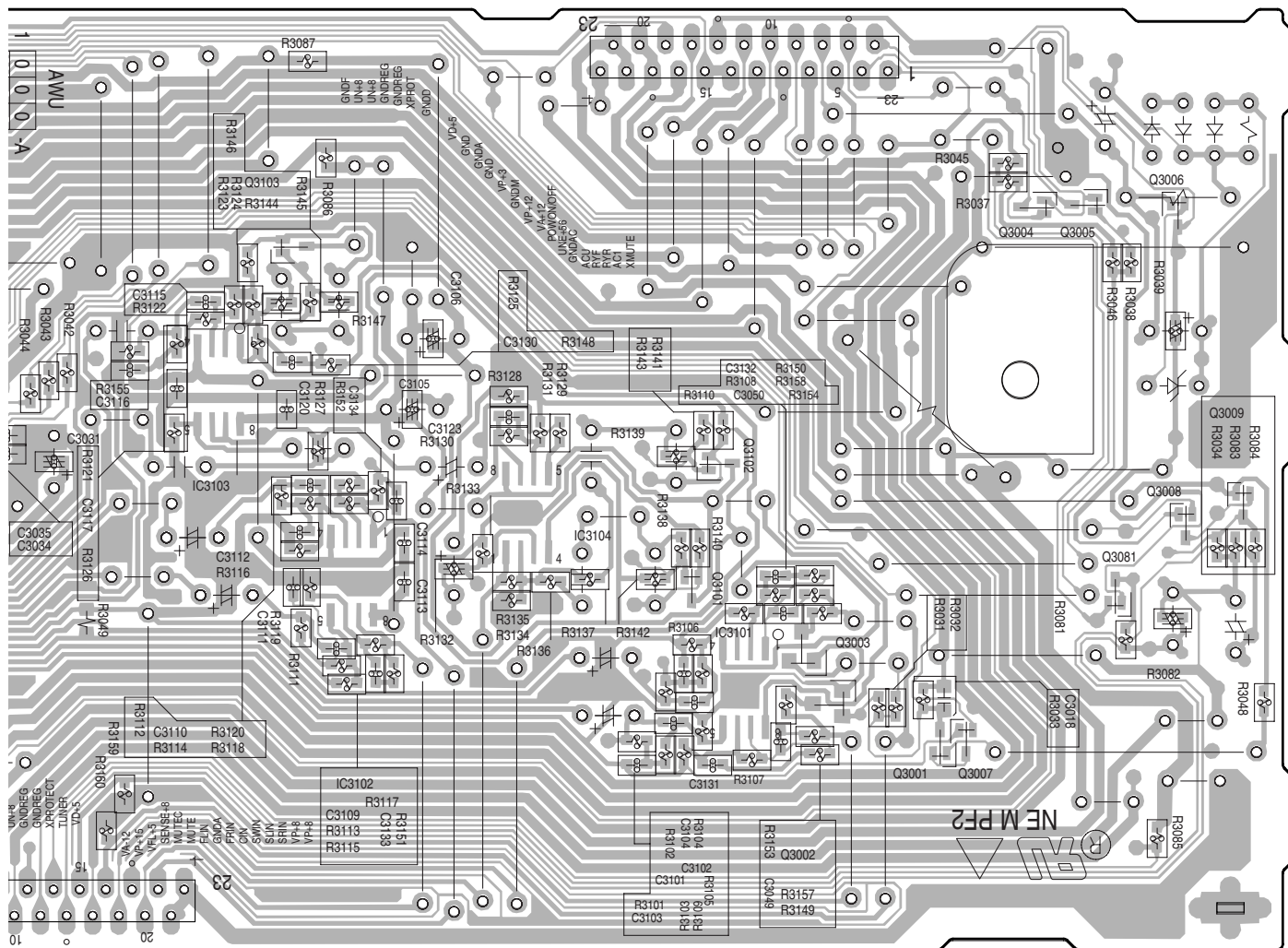
D

E

F

A

CN3703



14

(ANP7432-D)

IC3103

IC3102

IC3104

Q3101 IC3101

Q3002 Q3003

Q3001 Q3007

Q3004 Q3005

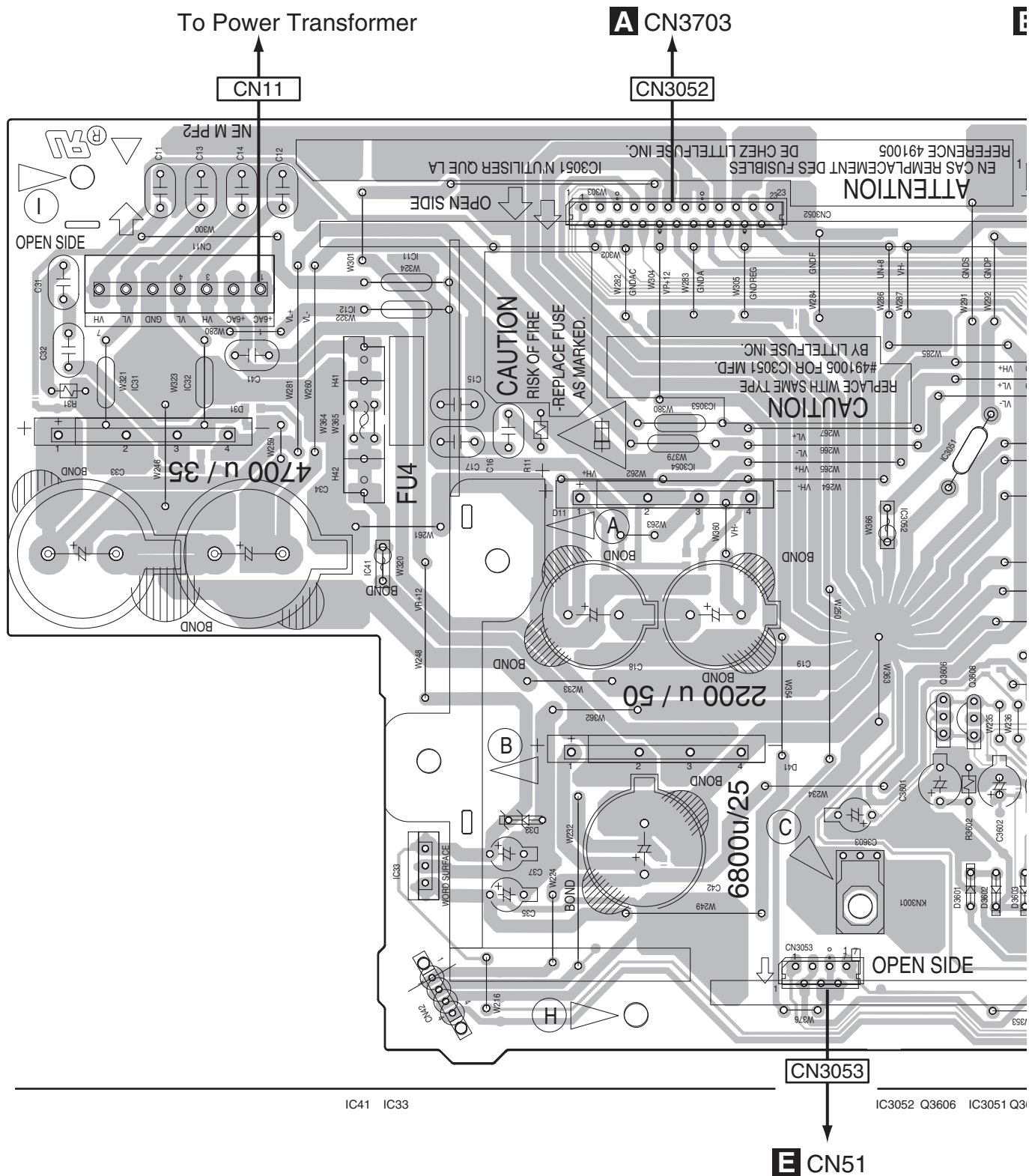
Q3081 Q3008

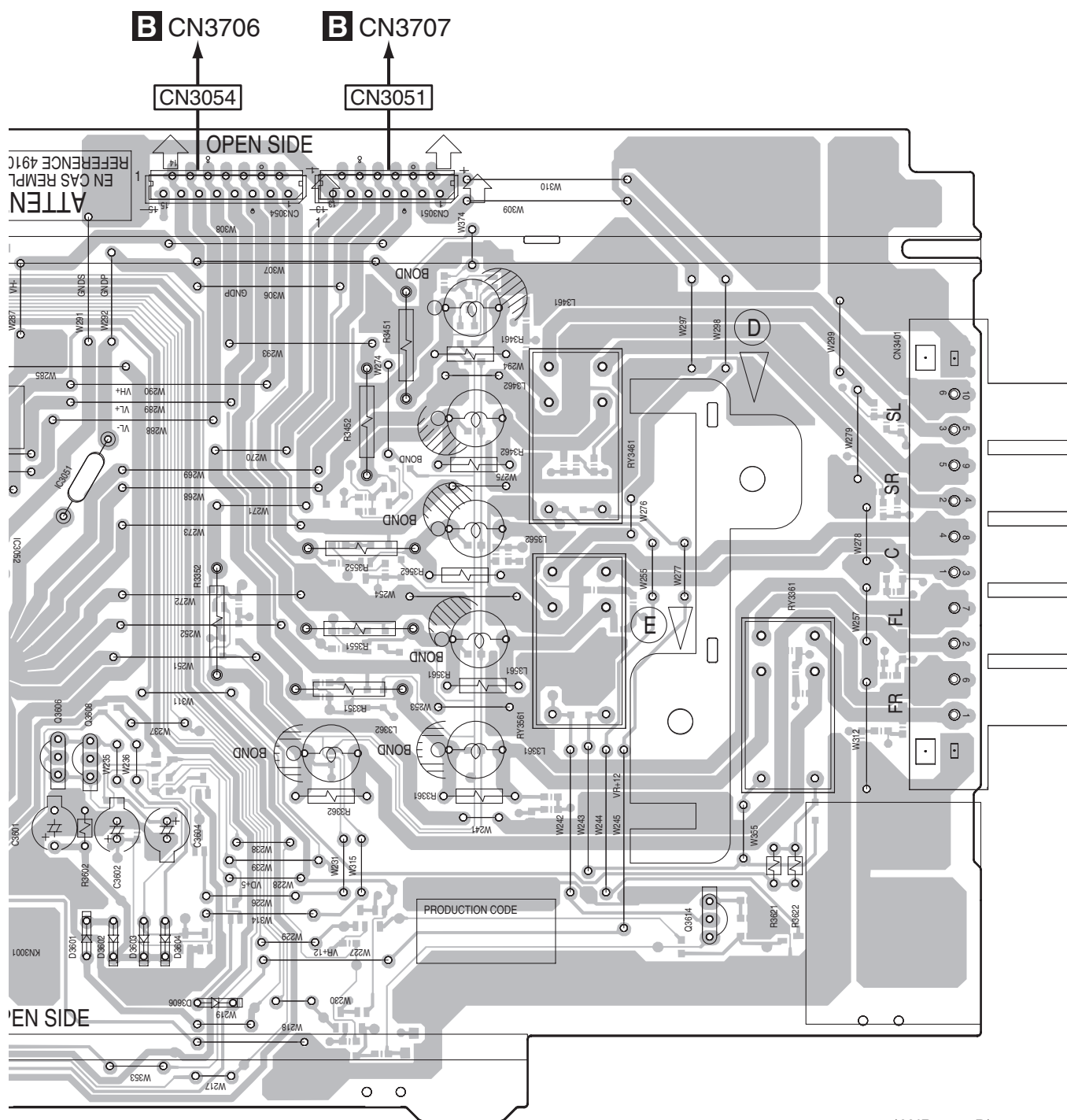
Q3006 Q3009

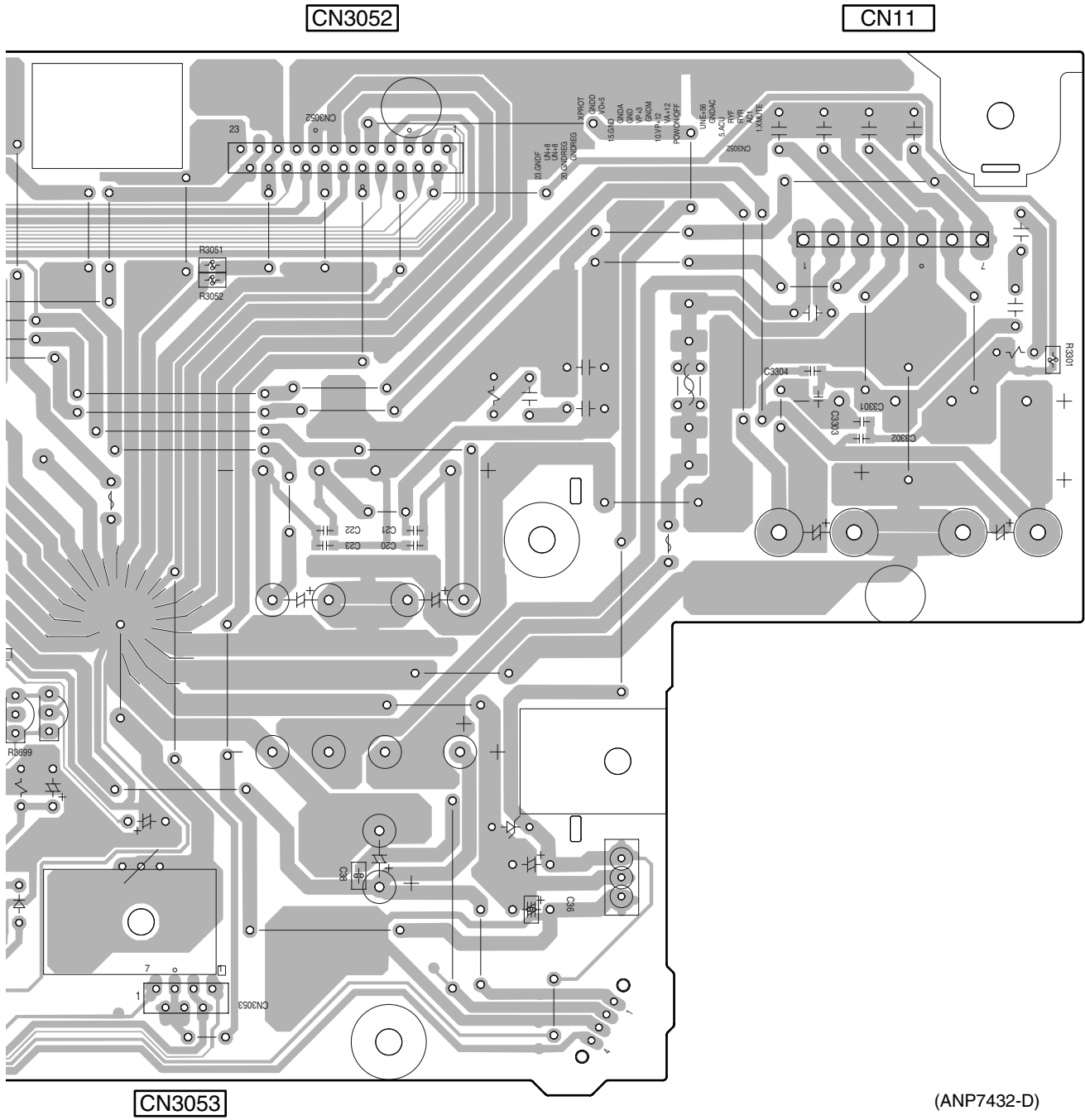
4.3 POWER ASSY

SIDE A

POWER ASSY







307
4 Q3609

(ANP7432-D)

5. PCB PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω $\rightarrow$ 56 $\times 10^1$ $\rightarrow$ 561 RD1/4PU $\boxed{5}\boxed{6}\boxed{1}$ J

47k Ω $\rightarrow$ 47 $\times 10^3$ $\rightarrow$ 473 RD1/4PU $\boxed{4}\boxed{7}\boxed{3}$ J

0.5 Ω $\rightarrow$ R50 RN2H $\boxed{R}\boxed{5}\boxed{0}$ K

1 Ω $\rightarrow$ 1R0 RS1P $\boxed{1}\boxed{R}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω $\rightarrow$ 562 $\times 10^1$ $\rightarrow$ 5621 RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

Mark No. Description Part No.

LIST OF ASSEMBLIES

NSP	1..DVD AMP ASSY	AWM7872
	2..PRIMARY ASSY	AWU8030
	2..TRADE 1 ASSY	AWU8028
	2..POWER ASSY	AWU8097
	2..AF ASSY	AWU8098
NSP	1..AMP MODULE 6CH	AXQ7242
	2..6CH AMP (SERVICE)	AZW7283

Mark No. Description Part No.

A AF ASSY [AWU8098] SEMICONDUCTORS

IC3002-IC3004, IC3102-IC3104	BA4558F-HT
IC3001	M62446AFP
IC3101	UPC4570G2
Q3004, Q3005	2SC4081
Q3009	UN5112
Q3081	UN511L
Q3008	UN5212
Q3006	UN521L
D3004-D3006	1SS133
D3003	MTZJ2.7B
D3001, D3002	UDZS6.8B
D3007-D3030	UDZS8.2B

CAPACITORS

C3034-C3036	CCSRCH101J50
C3130-C3134	CCSRCH331J50
C3003, C3004, C3009, C3010	CEAL100M16
C3015, C3016, C3019, C3020, C3043	CEAL100M16
C3045	CEAL100M16
C3032	CEAL101M6R3
C3021, C3022	CEAL221M10
C3048	CEAL470M16
C3037, C3121, C3122	CEAT100M50
C3081, C3082	CEAT220M50
C3038, C3047, C3107, C3108	CEAT470M25
C3118, C3119	CFTLA224J50
C3001, C3002, C3007, C3008	CKSRYB103K50
C3013, C3014, C3025, C3028, C3031	CKSRYB103K50
C3105, C3106, C3113, C3114, C3117	CKSRYB103K50
C3120	CKSRYB103K50
C3023, C3024	CKSRYB104K25
C3123	CKSRYB332K50
C9001, C9002	CKSRYB392K50
C3566, C3568	CKSRYB473K50
C3026, C3029	CKSRYB474K10
C3027, C3030	CKSRYB822K50
C3017	CQMB683J50
C3570 (10pF/100V)	XCG3008

RESISTORS

R3035, R3036	RD1/2PM151J
R3041	RD1/2PM222J
R3040	RD1/4PU273J
R3050	RS1/10S0R0J

Mark No.	Description	Part No.
R3005-R3008, R3015-R3018		RS1/16S1001F
R3025-R3028		RS1/16S1001F
R3001-R3004, R3011-R3014		RS1/16S2201F
R3021-R3024		RS1/16S2201F
Other Resistors		RS1/16S###J

OTHERS

3701 CABLE HOLDER(4P)	51052-0400
3702 CABLE HOLDER(10P)	51052-1000
CN3601 2P CONNECTOR	5569-02A1
CN3703-CN3705 23P SOCKET	AKP7075
CN3702 20P SOCKET	AKP7129
CN3701 12P CONNECTOR	AKP7131
J3701 JUMPER WIRE	D25PYY0415E
J3702 JUMPER WIRE	D25PYY1015E
PCB BINDER	VEF1040

B TRADE 1 ASSY [AWU8028]

OTHERS

3703 CABLE HOLDER(4P)	51052-0400
3704 CABLE HOLDER(10P)	51052-1000
CN3707 13P SOCKET	AKP7070
CN3706 15P SOCKET	AKP7071

C 6CH AMP (SERVICE) [AZW7283]

SEMICONDUCTORS

⚠ IC81	NJM7805FA
⚠ IC71	NJM7912FA
⚠ IC3301, IC3401	STK402-270
Q3382, Q43	2SA1576A
Q62	2SB1237X
Q111, Q3381, Q63, Q92	2SC4081
⚠ Q61	2SD2012
Q3301, Q3302, Q3401, Q3402	2SD2114K
Q3501, Q3502, Q3504	2SD2114K
Q3654	2SD2144S
Q107, Q3653	DTA124EUA
Q3652	DTA124TK
Q106	DTC124EUA
⚠ Q3383, Q91	IRFI9Z34G
⚠ Q3384	IRFIZ34G
Q3651	RN1901
Q101, Q103	UMB1N
Q102, Q104	UMH1N
⚠ D3321-D3326	1SR139-400
D3327, D3328	1SR139-400
⚠ D3421-D3426	1SR139-400
D3427, D3428	1SR139-400
D3387, D3388, D3651-D3655	1SS133
D101, D102, D104, D3657, D42	1SS355
D3391, D3392	30PDA20-FC6
⚠ D3381, D3382, D3481, D3482	DAN217
⚠ D3581, D3582	DAN217
D3389, D3390	MTZJ10C
⚠ D98	MTZJ11B
⚠ D72	MTZJ15C
D3393, D3394	MTZJ18B/C
⚠ D63	MTZJ18C
D3385, D3386	MTZJ36A

Mark No.	Description	Part No.
⚠ D82		MTZJ7.5C
D91		UDZS18B
D105, D106, D3658		UDZS7.5B
TH111		NCP18WF104J03RB

CAPACITORS

C3305, C3306, C3405, C3406	CCSRCH221J50
C3505, C3506, C62, C97	CCSRCH221J50
C3309, C3310, C3409, C3410	CCSRCJ3R0C50
C3509, C3510	CCSRCJ3R0C50
C3307, C3308, C3407, C3408, C3508	CEAL100M16
C3507	CEAL470M6R3
C72	CEAT100M50
C3651	CEAT101M25
C101, C102	CEAT1R0M50
C3323, C3324, C3423, C3424	CEAT221M50
C3167, C3168, C3178, C3179	CEAT2R2M50
C3301, C3302, C3317, C3318	CEAT2R2M50
C3401, C3402, C3501, C3502	CEAT2R2M50
C3652, C63, C82, C98	CEAT470M25
C3653	CEAT470M35
C3303, C3304, C3403, C3404	CKSRYB102K50
C3503, C3504	CKSRYB102K50
C92	CKSRYB104K16
C71, C81	CKSRYB473K50

RESISTORS

R3317-R3320, R3417-R3420	ACN7122
R3517-R3520 (0.22ohm/2W)	ACN7122
⚠ R3327, R3328, R3427, R3428	RD1/4MUF470J
R3387, R3388	RD1/4PU101J
R3657	RD1/4PU330J
R96, R97	RS1/16S1002F
⚠ R3323, R3324, R3351, R3423, R3424	RS1/16S1R0J
⚠ R3451	RS1/16S1R0J
R67, R68	RS1/16S2201F
R94, R95	RS1/16S2701F
⚠ R62	RS1/16S330J
R65	RS1/16S4700F
R47, R48	RS1/16S4701F
Other Resistors	RS1/16S###J

OTHERS

CN3001, CN3002 23P PLUG	AKP7064
CN3651 PLUG(2P)	KM200SA2

D POWER ASSY [AWU8097]

SEMICONDUCTORS

⚠ IC3051 PROTECTOR(5A)	AEK7046
⚠ IC33	NJM7812FA
Q3351, Q3352, Q3451, Q3452	2SC4081
Q3551, Q3552, Q3604, Q3605, Q3610	2SC4081
Q3612, Q3615	2SC4081
Q3614	2SD1858X
Q3606, Q3608	DTA123JS
Q3602	UN5112
Q3611, Q3613	UN511L
Q3603	UN5212
Q3601, Q3607, Q3609	UN521L
D3601-D3604, D3606	1SS133
D3351-D3354, D3361, D3451-D3454	1SS355

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
D3461, D3551-D3554, D3561		1SS355
⚠ D11, D31, D41		D5SBA20(B)

D3605 DA204K

COILS AND FILTERS

L3361, L3362, L3461, L3462 ATH-059
L3561, L3562 COIL ATH-059

CAPACITORS

C33, C34 (4700uF/35V) ACH7171
C3601 CEAL100M50
C3602 CEAL101M10
C3604 CEAL470M16
C35 CEAT100M50

C3603 CEAT101M10
C18, C19 CEAT222M50
C37 CEAT470M25
C42 CEAT682M25
C36 CKSRYB103K50

C3365-C3368, C3465-C3468, C3565 CKSRYB473K50
C3567 CKSRYB473K50
C31, C32 CQMB A103J50
C3605 (10uF/10V) DCH1148
C20-C23, C3301-C3304 XCG3008

C3369, C3370, C3469, C3470, C3569 XCG3008
(10pF/100V)

RESISTORS

R3351, R3352, R3451, R3452 ACN7112
R3551, R3552 (0.1ohm,2W) ACN7112
R3361, R3362, R3461, R3462 RD1/2PM101J
R3561, R3562 RD1/2PM101J
R31 RD1/4PU100J

R3602 RD1/4PU222J
R3621, R3622 RD1/4PU820J
Other Resistors RS1/16S###J

OTHERS

3401 SPEAKER TERMINAL10-P AKE7081
CN3053 7P PLUG AKP7056
CN3051 13P PLUG AKP7059
CN3054 15P PLUG AKP7060
CN3052 23P PLUG AKP7064

H41, H42 FUSE CLIP AKR7001
RY3361, RY3461, RY3561 SP RELAY ASR7008
CN11 CONNECTOR B7P-VH
KN3001 WRAPPING TERMINAL VNF1084

E PRIMARY ASSY [AWU8030] SEMICONDUCTORS

Q52 2SC4081
Q51 2SD1858X
D52 1SS133
D53, D54 1SS355
⚠ D51 S1WB(A)60SD

D55 UDZS20B

COILS AND FILTERS

⚠ L1 LINE FILTER ATF7018

TRANSFORMERS

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ T2	POWER TRANSFORMER	ATT7080

CAPACITORS

⚠ C1, C2 (0.022F/AC275V) ACE7022
⚠ C3 (1000pF/AC250V) ACG7033
C52 CEAT102M25

RESISTORS

All Resistors RS1/16S###J

OTHERS

CN51 7P SOCKET AKP7067
H1- H6 FUSE CLIP AKR7001
⚠ RY51 RELAY ASR7027
⚠ CN1 CONNECTOR B2P3S-VH
⚠ CN2 CONNECTOR B4P7S-VH

⚠ AN1 AC INLET 1P XKP3041
S101, S102 VOLTAGE SELECTOR AKX7017

6. ADJUSTMENT

There is no information to be shown in this chapter.

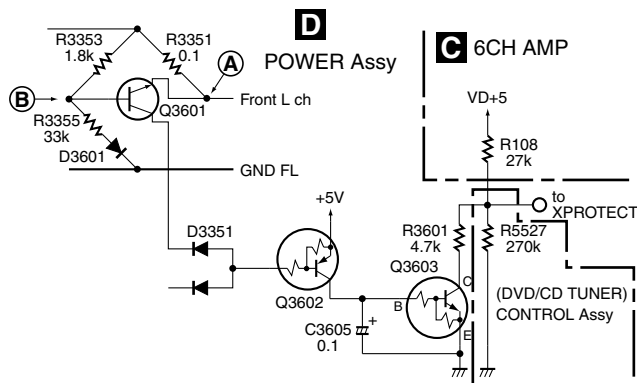
7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 PROTECTION CIRCUIT

Note: Refer to the Schematic Diagram about the actual circuit.
(The □ number corresponds to the ■ marked circuits.)

1 Protection circuit when the Speaker terminal becomes overloaded



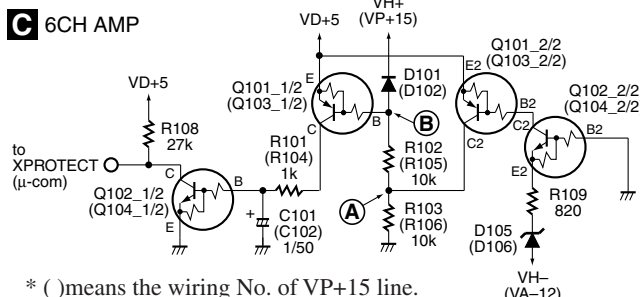
In Normal mode, the speaker (6 ohms) is connected between the FL and GND FL points. Because the voltage at Point A is higher than that at Point B, Q3601 does not operate.

If the resistance between the FL and GND FL points becomes 1.83 ohms or less, Q3601 begins to operate, Q3602 is turned on, Q3603 (E, C, and B) is turned on, and the level of XPROTECT becomes MID.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

2 -1 Short-circuit-detection circuit for the amplifier power circuit (VH+[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)



* () means the wiring No. of VP+15 line.

• In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point A is about 5 V. The voltage at Point B is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point B becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

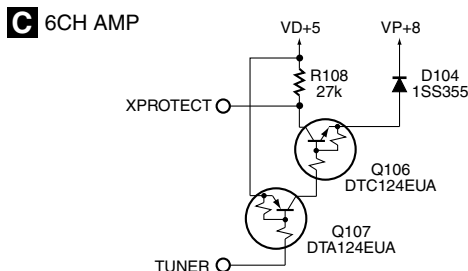
(2) When VH-(VA-12) is short-circuited

As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points A and B to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

2 -2 Short-circuit-detection circuit for the DVD power Line (VP+8)

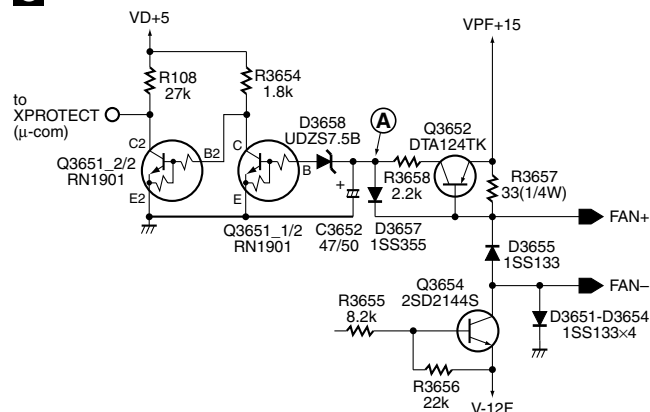


As the TUNER line is fixed to GND level, Q107 is always on. If the level at VP+8 falls to GND level because of short-circuit, etc., Q106 is turned on, and the level of the XPROTECT line becomes low.

← The microcomputer detects the XPROTECT level and shuts the power to the unit off.

3 FAN detection circuit

C 6CH AMP

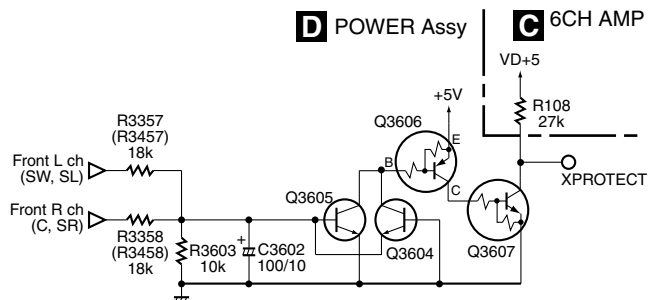


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, current will not flow to R3657, and Q3652 and Q3651-1/2 (E, C, B) are turned off. Then Q3651-2/2 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

When FAN+ and FAN- are short-circuited, the electric potential at Point (A) becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

4 DC detection circuit of SP terminal



• In Normal mode, both Q3605 and Q3604 are off.

(1) When positive (+) DC voltage is generated at the SP terminal

When positive (+) DC voltage is generated at the L or R channel, and VB of Q3605 becomes higher than that at the operation point, Q3606 (E, C, B) is turned on, and the level of XPROTECT becomes low.

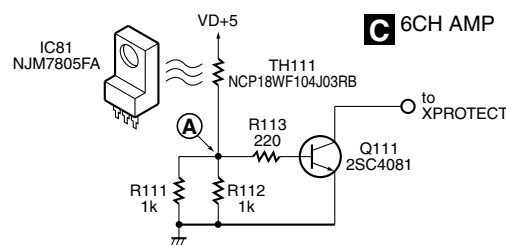
→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When negative (-) DC voltage was generated at the SP terminal

Q3604 is turned on, and XPROTECT is activated.

5 IC81 abnormal temperature detection circuit

C 6CH AMP



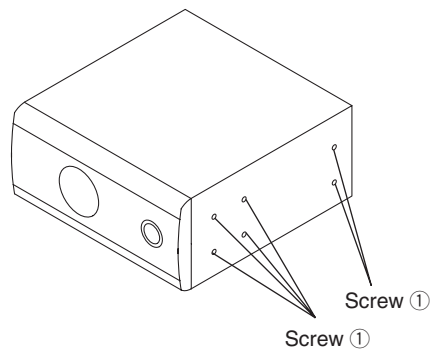
The voltage at Point (A) becomes the divided voltage of TH111 and R111//R112 (combined resistance of parallel-connected resistors R111 and R112.) In Normal mode, the resistance at TH111 is much higher than R111//R112, and Q111 is off. (Note that the resistance at TH111 becomes lower as the temperature increases.) If the solder temperature at IC81 increases abnormally, the temperature at TH111 (thermistor) mounted closest to the land of IC81 increases accordingly, and the resistance at TH111 decreases.

When the temperature at TH111 reaches 90-110_C (varying according to conditions,) the voltage at Point (A) becomes high enough to turn Q111 on, and the level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

7.1.2 DISASSEMBLY

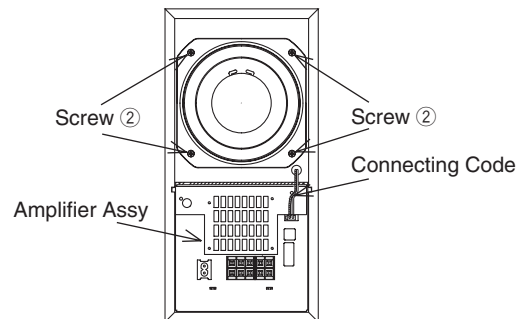
1. Removing the Amplifier Assy

- 1) The Amplifier Assy is attached to the cabinet by six external screws ①. To detach it, pull down the subwoofer toward the left side.
- 2) Then unfasten those screws ①.
- 3) Then stand up the speaker again. To detach the Amplifier Assy, first remove the connecting code. Then pull straight the Amplifier Assy toward back and remove it.



2. Removing the Subwoofer

- 1) The speaker element is attached to the back board by four external screws ②. To detach it, unfasten those screws.
- 2) When attaching it, face its terminal upward.



3. Removing the Cosmetic Baffle

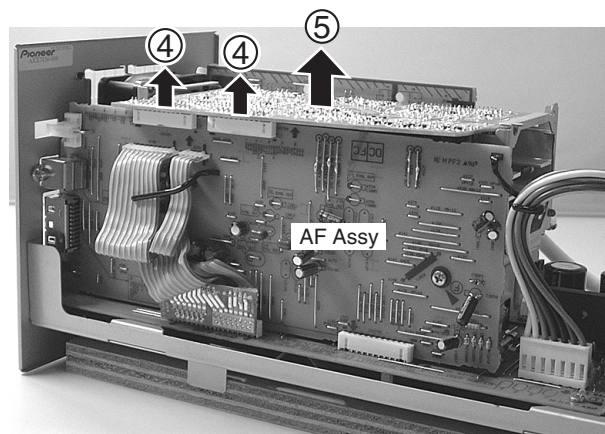
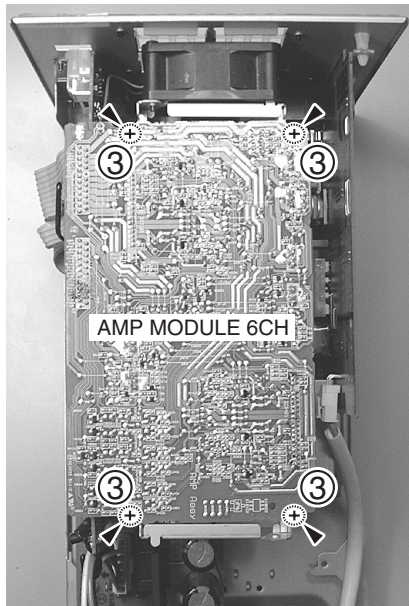
- 1) The cosmetic baffle is attached to the baffle by press-fitting. To detach it, pry it open by inserting a flat blade screwdriver into lower side.

4. Removing the Cosmetic Duct

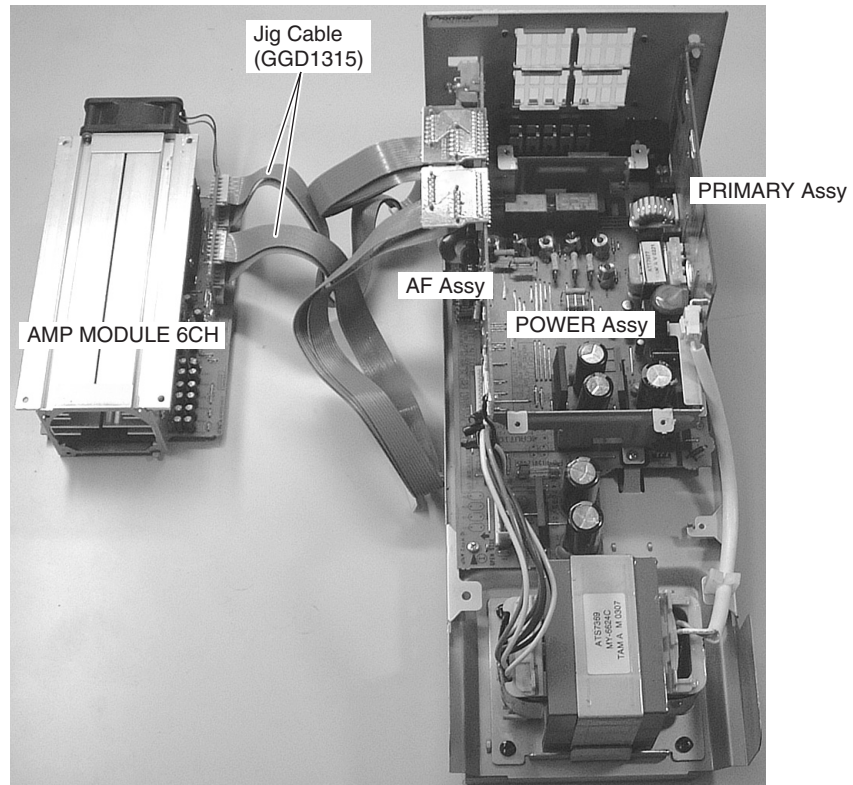
- 1) The cosmetic baffle, those screws are removed when removing the cosmetic duct attached in cosmetic baffle with four screws.

5. Diagnosis

- 1) Remove the four screws ③.
- 2) Disconnect the two connectors ④.
- 3) Remove the AMP MODULE ⑤.



4) Connect the two jig cables as figure below.



↓
Diagnosis

7.2 IC

• The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

■ M62446AFP (AF ASSY : IC3001)
● EXPAND port in E-vol IC

No.	Mark	Pin Name	Pin Function	Active
3	Q2	CMUTE	Control C mute	H
2	Q3	SPRYRC	Control relay for rear and center speaker	H
1	Q4	SPRYS	Control relay for front speaker	H

7.3 CLEANING



Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008